342.3 Mc

Forest Insect Laboratory
Coeur d'Alene, Idaho
January 10, 1941

MEMORANDUM Re -- Rearing of Melanophila californica and gentilis at the Coeur d'Alene Laboratory Insectary.

For Mr. K. A. Salmon

Melanophila californica Van Dyke

During an examination of the ponderosa pine in the Salmon River region near Riggins, Idaho, in 1938, Mr. T. T. Terrell of the Coeur d'Alene Laboratory personnel found that a very heavy loss, caused by the attacks of a species of flathead wood borer, had occurred in some of the young stands. Seven three-foot sections were cut from standing infested trees and placed in rearing cages at the Coeur d'Alene Laboratory insectary on November 21, 1938. A forced emergence from one small stick, in addition to the three-foot sections, produced one adult beetle on April 20, 1939. This adult, which with several larvae was mailed to Washington, D. C., was determined as Melanophila californica Van Dyke. The results of the total emergence secured from the seven three-foot sections are as follows:

Cage No.	No. of sq. ft. infested bark surface	No. of adult emerging	No. of adults per sq.ft. of bark surface
1	9½	50	5.26
2	7	11	1.57
3	7	60	8.57
Totals	23½	121	Ave. 5.14

Emergence began on July 22, 1939, and ended August 8, 1939. No parasitic, predacious, or associated insects were secured from this

infested material. So far this species of Melanophila has not been collected or reared from material in the vicinity of Coeur d'Alene, Idaho.

In order to secure more information on the status of the Melanophila infestation in ponderosa pine near Riggins, Idaho, additional rearing material was secured by T. T. Terrell on May 16, 1940. A total of eight four-foot sections were cut from two small standing infested ponderosa pine with sorrel foliage. These sections were brought to the Coeur d'Alene Laboratory insectary on May 18, 1940, and placed in rearing cages. In addition to attacks by Melanophila californica this material was heavily attacked by a small secondary bark beetle, Orthotomicus ornatus Sw. Also a large number of the parasitic wood wasp Ibalia ensiger Norton and Behren's horntail Sirex behrensi (Cress) were reared from this material. Emergence of the bark beetle Orthotomicus ornatus began on May 21, 1940, and averaged as high as 67 adults per square foot of bark surface from some of the sections. Emergence of Melanophila californica began on June 25 and lasted until July 12. This emergence started almost a month earlier than from material collected the previous fall from the same area which was held over winter at the Coeur d'Alene insectary. A large series of cast larval skins along with the newly developed adults removed from their pupal cells prior to emergence were secured and mailed to Washington, D. C.

No Melanophila gentilis were reared from these eight sections of ponderosa pine.

Melanophila gentilis Lec.

While in the Salmon River region near Riggins, Idaho, May 16, 1940, Mr. Terrell felled four additional young unattacked ponderosa pine. Two of them were left intact and two were limbed, topped and covered with brush. These trees were left undisturbed on the area until July 24, 1940, at which time four-foot sections were cut from both treatments and brought to the Coeur d'Alene Laboratory insectary on July 26, 1940, and placed in rearing cages. On July 31, 1940, one adult M. gentilis emerged from a section cut from one of the trees that had not been covered with brush. Seven more adults emerged from this section between August 1 and 19, 1940; this concluded the emergence from this cage, though there were many more larvae in pupal cells apparently in the prepupal stage. A check log from the same tree gave an emergence of 5 M. gentilis and a large number of larvae in apparently the same development as the caged log. A series of 20 of these larvae were placed in separate containers hoping to secure a forced emergence. One adult M. gentilis emerged on August 29, 1940, and the balance have remained in the prepupal larval stage with no feeding activities. No emergence of Melanophila sp. was secured from the sections that had been covered with brush and no emergence of M. californica has been recorded so far from any of the caged logs from the felled trees.

There were a few small feeding larvae in the logs in addition to those in the prepupal stage and no definite conclusions can be made until after emergence is complete, sometime during June or July 1941.

Additional infested ponderosa pine sections were secured from a standing tree near Lewiston, Idaho, on September 5, 1940. The flathead

larvae in this material were very small and the attacks may have occurred during early July or August 1940.

Several infested sections were also received on October 15, 1940, from a tree felled near Riggins, Idaho, by Mr. J. C. Evenden on August 15, 1940. The final emergence record from all this material should give some evidence of the various times of attack and emergence and if M. californica will attack and breed in down slash in the Salmon River region near Riggins, Idaho.

Respectfully submitted,

Henry J. Rust

HENRY J. RUST
Senior Scientific Aide

for Evenden; letter of July 28, 1941